

GEOGRAPHIC NEWS BULLETINS

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(The National Geographic Society is a scientific and educational Society, wholly altruistic, incorporated under the Federal law as a non-commercial institution for the increase of geographic knowledge and its popular diffusion.)

General Headquarters, Washington, D. C.

CONTENTS FOR WEEK OF OCTOBER 18, 1926. Vol. V. No. 13.

Note to Teachers.—This is the first issue of the GEOGRAPHIC NEWS BULLETINS for the school year 1926-27. No bulletins were issued during the summer vacation months.

1. Hurricanes and the "Hurricane-Growing Months."
2. Valencia: City of Dreams—and Irrigation.
3. What Is Corn?
4. Milestones of 400,000 Miles of American Highways.
5. How the Turkish Carpet Fled from Asia Minor to Athens.

See, also, special notice on the back of this cover page.



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GREEK GIRLS WEAIVING RUGS

The story of how this industry was imported into Greece along with a refugee population is told in Bulletin No. 4.

HOW TEACHERS MAY OBTAIN THE BULLETINS

The Geographic News Bulletins are published weekly throughout the school year (thirty issues) and will be mailed to teachers for one year upon receipt of 25 cents (in stamps or money order). Entered as second-class matter, January 27, 1922, at the Post Office at Washington, D. C., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized February 9, 1922.

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Hurricanes and the "Hurricane-Growing Months"

WEST INDIAN hurricanes are not new, nor are they confined to Florida. In the season that is peculiarly their own (there are "hurricane-growing months" just as there are "corn-growing months") they have probably been blowing up from the Gulf of Mexico, the Caribbean Sea, and the tropical Atlantic since those bodies of water and the American Continents have existed—a matter of some hundreds of thousands of years. But only a few of these many potential destroyers actually work their destruction on the territory of the United States, and these are confined almost wholly to a period of three months of the late summer and early autumn.

Free From Danger During Winter

Thus they leave Florida and the other Gulf States free from danger during the late autumn, the entire winter, and the early spring months when that area attracts its greatest crowd of visitors.

The warm seas eastward and southeastward of the Gulf of Mexico are the birthplaces of the hurricanes. They are the creatures of atmospheric pressure and temperature; and these two factors are varied by the sun beating down on the expanses of Atlantic water and the land mass of our continent.

One of the most striking facts in regard to West Indian hurricanes is the marked concentration of the really destructive ones within a few weeks of each year. A study of the hurricanes that had occurred since 1887 was made by the United States Weather Bureau a few years ago and it was found that in this long period not one storm of known hurricane intensity had visited the West Indies and Gulf regions during the months from December to May inclusive. Two other months can practically be eliminated: November with only two hurricanes in nearly forty years, and June, with six. Not all of the few November and June storms reach American territory.

"Season" Starts in August

July itself is rather a poor hurricane month. Less than a dozen July hurricanes have been recorded in the last forty years and only part of them reached shore. The real hurricane season starts in August, reaches its peak in September, and ends during October. One reassuring fact is that when the hurricane season is at its height the greatest percentage of the storms fails to reach the Gulf or Atlantic coasts. Many curve back into the ocean even as far east as the Bermudas.

Between July and October of every year from six to ten hurricanes are born somewhere between Florida and Africa, usually to sweep westward, then northward, and finally back northeastward, their paths forming pretty accurate parabolic curves. The primary factor in the careers of these storms is believed to be an area of high atmospheric pressure, or "high," that exists practically permanently over the Atlantic north of the Tropics. In other words, a great blanket of heavy, sluggish air lies continually over this area. Along its southern edge in the Tropics, heated air, rising, causes little swirling disturbances which

Bulletin No. 1, October 18, 1926 (over).



CORN "ON THE HOOF"

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A major share of the corn crop of the United States is not marketed direct but reaches the consumer in the form of pork (see Bulletin No. 3).

A Gift to Education

The GEOGRAPHIC NEWS BULLETINS are a gift of the National Geographic Society to education. This is the first issue of 30 numbers, each containing five illustrated bulletins, to be mailed weekly during the current school year. The bulletins report the geography of recent events of world importance. They are available only to teachers. Each request should be accompanied by 25 cents to cover mailing costs for 30 issues. The following form may be used:

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Address for sending Bulletins.....

City..... State.....

I am a teacher in.....school.....grade.

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Valencia: City of Dreams—and Irrigation

"Valencia, in my dreams it always seems
I hear you softly call to me.
Valencia, where orange trees forever
tempt the breeze beside the seas."

COMMERCE reports add a third line to the popular song which proclaims the Spanish city a paradise of love and romance. The third line being:

"Valencia, two new bridges, sewer system,
city hall and central market."

For Valencia has embarked on an ambitious program of public improvements.

Song's Music Like City

The music of the song is like the city. The band crashes into the opening measures with every brass and every drum, then levels down to a thin little melody before it recovers courage. The city of Valencia greets the visitor with a blare of prosperity.

But the music changes and one catches as an interlude and undertone the refrain of old Valencia. Moorish life, to which gardens were more important than factories, has survived more strongly in this third city of Spain, it is said, than any other in the Peninsula. Darker eyes and deeper complexions are met with on Valencia's streets than in Barcelona, to the north. Irrigated orchards that are more like gardens than groves still mark Valencia's countryside away from the busy hubbub of the port. "The scent bottle of Andalus" the Moors called it. Spaniards know their city of 256,000 people as "Valencia del Cid." Thus do they surrender the city once more to the Cid, a sort of Robin Hood, who is quite lovable at a distance of nine centuries.

A Remarkable Open Air Court

A practice in harmony with the old Valencia can be seen every Thursday morning at 10 o'clock before the Door of the Apostles, main entrance to the 500-year-old cathedral. Here meets the Tribunal de las Aguas, the Court of the Waters.

The Tribunal's court room is the pavement, open to the blue sky, as it has been for five centuries. The judges' bench is a sofa, upholstered in green. It appears from some mysterious hiding place. Following the judges' sofa comes the bar of justice, a portable iron railing. And in due course, seven judges. But how can these men judge? They have no long black cloaks. They have no wigs like the English judges. They have not professionally serious faces. They are dressed like peasants, in Sunday black with black felt hats. Indeed, they are ordinary peasants elected by the peasant water users of the Huerta or gardens of Valencia's countryside.

Every American who has any contact with the furious contentions which have marked the history of irrigation in the United States, will be interested in the procedure and the remarkable history of the Tribunal de las Aguas of Valencia.

are the seeds of possible hurricanes. But there is a certain infant mortality among these stormlets, especially in winter and spring. Then the Atlantic "high" extends in a broad band on into the North American continent, forming in effect a wall of heavy air which the storms can not pass. Confined to the Tropics, they are dissipated without causing the United States any concern.

Like an Atmospheric Foot-Ball Game

But when the heat of summer has warmed up the land the "high" withdraws to its ocean home, jutting out like an air peninsula toward America. The atmosphere over the land becomes an arena for shifting "highs" and "lows." It is as though an atmospheric foot-ball game were in progress. The newly born storms of the tropical Atlantic regions seek, because of the general drift of the atmosphere, to move northward. The "highs," whether stationary or in motion, furnish the interference which they must dodge. The weakest place in the defense is between the permanent mid-Atlantic "high" and the American coast. A great many tropical hurricanes, therefore, move east to avoid the mid-ocean barrier and then dash northward, well east of the coast, causing no damage on land. Once around the end of the "high" they swing northeastward, and some continue on even into Europe.

Some of the storms do not have such plain sailing. If the Atlantic "high" extends farther westward than usual the disturbances must swing over the land to round the end. It is upon such rather infrequent occasions that the Atlantic and Gulf coasts suffer as they did last month.

Sometimes Herded Into Gulf of Mexico

By a still farther westward extension of the high pressure area the storms are prevented from moving north and sweep into the Gulf of Mexico. It was such conditions that brought about the destructive Galveston hurricane in September, 1900, and that which cost many lives at Corpus Christi in September, 1919. The Galveston storm turned northward, traversed Texas and Oklahoma, and finally passed to the Atlantic down the St. Lawrence Valley. The Corpus Christi hurricane, however, belonged to the rare type with an approximately straight path. A chain of "highs" formed an impassable barrier to the north and the storm moved on into Mexico where it was finally dissipated among the mountains.

Hurricanes are not winds that drive straight ahead. They are swirls of the cyclonic type. These swirling storm centers move relatively slowly across sea and land, sometimes at no greater speed than eight or ten miles an hour. But they suck air towards them from all sides at terrific speeds, up to 100 or more miles an hour.

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What Is Corn?

BECAUSE the three billion bushel corn crop in the United States for the past season could not be marketed satisfactorily, either in the sack or "on the hoof," corn emerged as a factor on the economic—and even the political—stage.

Just what is corn?

The youngest farm lad will be sure he can answer that question fully. But can he?

Tell an Englishman that a bumper corn crop caused our farmers distress and he will not think of fields of great, tall stalks and big golden ears, but of waving wheat and huge elevators. You must speak of "maize" if you would have him understand.

Talk to a South African of either corn or maize and he will fail to get your meaning. He grows the same plant with its grain-studded cobs, but it is "mealies" to him. So around the world one finds what we know as "corn" growing under half a dozen aliases, while in other English-speaking countries "corn" means something entirely different.

"Corn" is an English word of long standing. Of old it meant any small, hard granule. "Pepper-corn" is one survival, while "corned" beef is, surprisingly, another. "Corned" meat gets its name from the fact that it was first prepared with coarse grains of salt—"salt-corns." Even "acorn" has had a misspelling legitimized because early Englishmen naturally mistook its derivation to be from "oak-corn."

Corn and Lawn Grasses Are Cousins

From its general meaning "corn," used alone, came in time to mean the small grains of the cereal plants such as barley, wheat, oats, etc.; and finally, in England and some of the colonies it usually meant wheat. "Corn" meant the cereals in general at the time of the colonization of America, and since "Indian corn" was the predominant grain crop in the New World it soon monopolized the name.

To those who have not dabbled in botany the classification of corn, often reaching a height of twenty feet, as a grass, is a bit surprising. It is, however, just as truly a grass as the tiny plants that carpet golf greens, the succulent foliage that covers pastures, the cereals, wheat, oats, rice, and the like, or its closer kinsmen, the sugar-canes and the sorghums. Corn is often called a "giant grass." It is rather a conservative giant, though, beside its cousin, bamboo, "the grass that grows into the sky." Bamboo attains a height of 125 feet and more.

Some "Corn" Immigrants

The confusion in regard to corn is increased by the existence of still other "corns." "Kaffir corn," also a grass, and a cousin of Indian corn, is one of the grain sorghums. It carries its round seeds not on ears but in an upright plume at the top of its stalk where Indian Corn has its grainless tassel. It did not reach America until after 1880.

Jerusalem corn is somewhat like Kaffir corn and the other grain sorghums

No Place For Lawyers

"S'obri el tribunal" announces a peasant official of the court. The court is convened. The plaintiff, a peasant in person, makes his statement to the court. Any interruption brings a fine. Then the defendant, also a peasant, states his side of the case. One judge announces the verdict of the court. There is no appeal from the decision. Neither the governments of Spain nor of Valencia have any part in the court, yet they honor its acts. None of its decisions is ever recorded. No lawyers are permitted to appear before the Judges of the Waters. They are men who know whereof they judge. They know what effect their rulings will have on the families concerned. They use water to grow oranges, olives and rice.

One who watches the judges depart, the railing and sofa disappear, feels that there is a finality in this justice inherited from the Moor. Prosperous orchards and farms throughout the irrigation district give evidence that it is also successful justice.

"Papel y tinta y poca justica," goes the proverb of the peasant. "Paper, ink and little justice."

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IN THE BAZAAR AT MERV IN THE TRANS-CASPIAN REGION

Years of care are represented in each of Bokhara's rugs. Around the Merv bazaar are small sheds to which wholesale buyers remove their wares and store them or display them (see Bulletin No. 5).

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Milestones of 400,000 Miles of American Highways

DRIVING 12 hours a day at the average speed of 30 miles an hour, an automobilist could cover the tourable highways in the United States and near-by Canada in three years and 16 days. This estimate is based on the 400,000 miles of highway catalogued in a current automobile guidebook. Yet when the "horseless carriages" first appeared thirty years ago it was a problem to find roads on which they could run.

We are riding up the crest of the third renaissance of American road building. Mound builders, the mysterious vanished tribe in the Mississippi Valley, had the first roads that were built in North America.

Good Roads Versus Historic Roads

The second high point in highway construction was the rise of trucking roads to serve the nation expanding westward. Of these the best example is the Lancaster to Philadelphia Valley Pike, now incorporated in the Lincoln Highway. Begun in 1792, the stock-subscription Lancaster Pike, with its many toll gates, was the first stone-surfaced highway in America. The impetus it gave to road building faded after 1830 in the face of the advancing steel of railroads. Road building slumped for 75 years until the automobile brought in the most notable era of turnpike construction ever seen in any nation in all time.

A slightly different version of road evolution was given by a backwoods Kentuckian when asked who built the roads in his State. "The buffler, the Ingin and the Engineer," he replied. If the question is *location* of American roads, his answer, except for pronunciation, stands correct for most of the United States.

Roads Our Best-Preserved "Antiques"

The increasing interest Americans are giving to the things which come down to us from our young past, colonial houses, colonial furniture and Indian relics, has not yet spread to roads. They remain to America with less loss than any other type of treasure from the past. But the tourist is still more interested in a good road than an historic road.

Though the traveler may ignore them, the ghosts of the "buffler, the Ingin," and the pioneer crowd turnpikes like the National Old Trail. Where it crosses the pass from Cumberland, Maryland, over the watershed to Uniontown, Pennsylvania, the buffalo herd first plowed a path to grazing valleys in Virginia. The Indian found it a good route for hunting and war, so when the first English penetrated the West they called it Nemacolin's Path, giving it the name of a famous Delaware Indian chief. Braddock sought it out when he hacked a road toward Fort Duquesne (Pittsburgh). Some say the fame for Braddock's road ought to swallow the infamy of Braddock's defeat.

Not for 25 years did another wheeled vehicle push over the road hewed for the wagon trains of the English and colonial armies. Braddock's Road became the National Road, financed by Congress but the Conestoga wagons going West might have easier going. Then came the early railroad. And now smooth macadam.

(milo maize, durra, etc.) but its seed-clusters hang downward, the ends of the stalk being bent over. It, too, is an immigrant.

Broom corn is the queerest of the cousins that bear commonly the corn surname, and incidentally it is the oldest of the non-sugar-bearing sorghums to be cultivated in the United States. Brooms were made commercially in America from locally grown broom-corn as early as 1798, and the plant was grown for home broom making some years earlier. The seeds in broom corn are of little value, but the stems of the seed-clusters are admirably suited to use in making brooms.

Corn That Turns Inside Out

Pop corn is merely a sort of dwarf Indian corn bearing small ears studded with small, hard kernels. The latter have the property, however, of puffing or popping when heat is applied. The hard outer shell bursts and the grain puffs out so violently that it turns itself inside out. Millions of dollars in nickels and dimes have changed hands on American street corners because of the contortions of pop-corn grains.

It is generally accepted that America gave Indian corn to the world. A few students have supported the theory that the plant came from Asia to Europe and from America to Europe at about the same time, soon after the discovery of America. There are no generally accepted records of corn's existence in Asia before the beginning of the 16th century, however, while it is known to have been cultivated in America for many centuries before the arrival of Columbus.

Since the 15th century corn has spread all over the world and is now an important crop in parts of the continents as well as in New Zealand and other islands. It is one of the most important food grains in portions of Portugal, Spain, France, Italy, Yugoslavia, and Rumania. In Burma the corn grain is a sort of by-product. The type grown there has fine, silky shucks or husks enclosing the ear. This is the highly prized product. It is used to wrap the "whackin' white cheroots" smoked by Burmese men, women and babies.

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The U. S. S. *NEW YORK* IN A HURRICANE (see Bulletin No. 1).

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How the Turkish Carpet Flew from Asia Minor to Athens

RUGS HAVE spelled romance from the era of the "magic carpet" to the arrival in the United States of the famous "Emperor's Rug," woven in 1550 and believed to be one of the half dozen most valuable in the world to-day.

The familiar Turkish rugs on American floors came from Turkey. But the next Turkish rugs that an American householder buys to match them—duplicates in design, color, tone and quality—may come from Greece.

Greek exports of oriental rugs have climbed from about 100 per month to over 100 per day, according to recent trade reports. The carpets of Asia whisked themselves across the Aegean Sea with the 1,350,000 Greeks deported from Turkey in 1922-23.

Uprooting a People and an Industry

From the trials of a single family of Christian Greek rug-makers from Geurdis in Anatolia, which is westernmost Asia Minor, may be imagined the hardships resulting from rooting up a people and an industry and planting them in another nation.

Angele, the father; Anastasia, the mother; Maria, a daughter old enough to be useful; and two younger children are the family Tozakoghlu. They lived in Geurdis, a valley village 75 miles northeast of Smyrna.

Where Alexander Hurt His Fingers

Like their neighbors they were a Greek family of Turkish rug-makers. Father Tozakoghlu was skilled in coloring Angora wool with vegetable dyes, yellow from Persian berries, red from madder root, and blue from indigo. The mother had the unusual opportunity to learn fine points of rug-making in a school near Constantinople started by a Sultan to raise the level of Turkish weaving.

Maria learned her art and trade from her mother. The girl's fingers tied and cut, as she, her mother, and two sisters all worked on the rug loom in their low, stone cottage. Rug-making has its speeds as do battleships and automobiles. Maria could do a thousand knots an hour. She had already woven her *kis khilim* and her father proudly proclaimed the news around the village. *Kis khilim* is the dowry rug. Of course, the most meticulous skill a girl can command goes into it. In the United States a *kis khilim* brings a high price.

For more than 2,000 years, Geurdis has been the City of The Knot. A Westerner will recognize it more easily from its Greek name Gordus, for the Gordian knot myth is common property even in America.

Rugs for Moslems Knees and Christian Feet

Rug-makers of modern Geurdis claim a similar tightness for the tight "Ghiordes" knots of their famous rugs. That the rugs were made for worshippers of Allah disturbed their religion not at all. They satisfied their consciences, no doubt, with the hope that their rugs might feel the soles of Christian feet in America.

When "Travel" Was "Travail"

It is difficult to find a person who does not "just love to travel." The forefathers spelled it "travail." The vast difference between journeys then and now made necessary a new definition, and the new definition a new spelling.

Any passenger on the back seat who grumbles at the bumps finds one to chide at his discomfort in Captain Basil Hall, an English traveler, in America about 1827; "Horrible corduroy roads again made their appearance in a more formidable shape," he wrote of a journey, "by the addition of deep, inky holes, which almost swallowed up the forewheels of the wagon and bathed its hinder axle-tree. The jogging and plunging to which we were now exposed, and occasionally the bang when the vehicle reached the bottom of one of these abysses, were so new and remarkable that we tried to make a good joke of them. I shall not compare this evening's drive to trotting up or down a pair of stairs, for, in that case there would be some kind of regularity, but with us there was no wavering, no pause, and when we least expected a jolt, down we went, smack! dash! crash! forging, like a ship in a head sea."

Wooden Roads of a Wooden Country

A "wooden country," the pioneers called it and a destination for much of the wood was in the roads. When a trucker's testing pole revealed a mud hole too deep he cut logs and filled it up. The first improved roads were the corduroy roads. Anyone can duplicate a corduroy road experience by driving down a railroad track bed without tires on the wheel rims. The plank road was invented at Toronto and first used in the United States at Syracuse. It consisted of planks three inches thick, laid for a single lane with a dirt turn out.

"The rise and decline of a State are better measured by its roads than by any other criterion," says Hilaire Belloc. And it is apparent that as America's roads run, so runs its history. There are plains roads of the Far West marked only by oxen skulls and camp fires; the creek roads of the Illinois Corn Belt where the pioneers counted upon water to wash away the gumbo soil that clung to the wagon wheels; the splendid oystershell roads of coast counties of the southern States; Ormond Beach sand road where the automobile speed record was set; the salt roads of Great Salt Lake; the desert road below sea level in Death Valley; the Columbia Highway, that Grand Corniche road of the West; the Susquehanna Road that fills the canal which was expected to connect the Mississippi Valley and the Atlantic coast; the Lehigh Valley Road that runs for 30 miles on an old railroad grade; and the beautiful avenues of New England where elms that witnessed Indian massacres shade fresh, white concrete; and many, many others.

Highways That Were Highways

Modern highways are conspicuous for their few detours. If a tree fell across a narrow trail, if the brambles got too thick, if wagons churned too deep a mud hole, if a flood encroached upon the path, if a forest fire clogged the trace, the pioneer had to detour. Sometimes there were as many as five or six paths paralleling each other, now joining, now crossing, now parting.

"Highways," we call our modern turnpikes, although most of them are "low ways" down a valley. Indians knew both high ways and low ways. The latter were used only in summer. Highways, or ridge roads along the watersheds, were the favored lines of travel. How poorly they were marked may be judged by the unfortunate incident of President Adams and his wife losing their way in the forest while approaching Washington from Baltimore.

At any rate the short-lived, post-World War possession of Anatolia by Greece ended in 1922. The Tozakoghlu family and thousands of Greeks fled from Turkish vengeance to Smyrna. When Smyrna burned, those who lived went to Greece where they could at least starve in peace. New Phaleron, the refugee colony at Athens' front door, was a sorry exchange for Geurdis, but remnants of the scattered family found each other. In a rough shack amid other shacks and dirty tents they tried to piece together a new world.

Brought Only Their Rug-Making Skill

They had no tools; they did not know farming. They brought to Greece only the skill to tie colored wool knots into warp and woof. But there was little wool to be had. No looms were in New Phaleron to work on. Rug patterns were a vague imprint of memory. Aniline dyes introduced a new, strange element. Surmounting these obstacles, fellow refugees began to produce rugs—crude affairs at first.

One day Maria heard of a new rug factory. An Armenian foreman who had fled from Bergama was looking for skilled workers such as she. He had obtained from America, of all places, patterns of the famous rugs of Asia; Bokhara, Hamadan, Pergamon, Shivaz, Demirdji, and thirty looms were busy.

Tying a Million Knots

Not even a skilled worker can get rich, but Maria is thankful for a living at piece work. She is paid by the knot—about 1 drachma per 1,000 knots—enabling her to earn 10 drachma, or \$1.90, per day. What does this mean in the terms of oriental rugs on American floors? Such rugs vary from 25 knots in cheaper grade to rare pieces of more than 400 knots per square inch. On a 9-by-12-foot rug of average quality Maria can do two inches the narrow way of the rug per day. If the rug has 75 knots per square inch it will have over 1,000,000 hand-tied knots.

Bulletin No. 5, October 18, 1926.



"THE GIBRALTAR OF VALENCIA" (See Bulletin No. 2)

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A remarkable natural curiosity along the eastern Spanish coast is Peníscola, a little fishing village on a rock out in the Mediterranean several hundred yards from the coast and joined to it only by a low, narrow strip.

